



TECH FOCUS 1

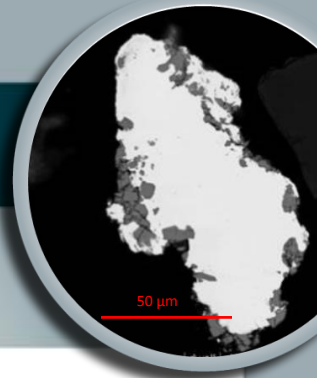
Evaluating floatability of platinum group minerals in Platreef ore

Automated mineralogical analysis of platinum group minerals (PGM) provides information used to understand flotation efficiency, primarily from a PGM liberation and association standpoint. To date, however, there is no consistent understanding regarding PGM speciation in ores in terms of its impact on floatability. Recent research involved laboratory-scale flotation and an assessment of liberated PGM distribution in derived rougher concentrates. [Read more here.](#)

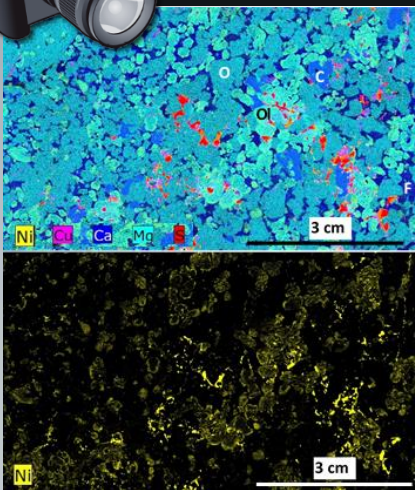
TECH FOCUS 2

Mineralogical investigations in gold ore beneficiation

Mineralogical investigations are often important first steps for determining the mode of occurrence of gold in ores, so as to decide on appropriate recovery methods. Automated scanning electron microscopy has become an indispensable tool for characterising discrete gold minerals in ores. With increasing ore complexity from free milling to double refractory ores, complementary techniques are called on to additionally quantify submicroscopic gold for the determination of gold deportment. [Read more here.](#)



MINTEREST



Micro-XRF imaging provides element maps of a mineralised feldspathic harzburgite drill core sample from the Platreef. The Ca and Mg distributions in the composite map (top) show feldspar (F), orthopyroxene (O), clinopyroxene (C) and olivine (Ol) with sulfide mineralisation in red. The Ni is distributed not only in sulfide as pentlandite, but also in the olivine (bottom image). This has implications for Ni recovery in flotation.

ROCK



Mineralogy team interviewed for JCK Online Magazine



Nosiphiwo Mzamo, Susan Brill and Dr Desh Chetty were recently interviewed by JCK Online magazine, following a journal publication on the fingerprinting of diamond parcels from the Central African Republic. The work forms part of the Kimberley Process Certification Scheme against the flow of illicit diamonds. [Read more here.](#)



MINERALOGY IN THE FIELD

CORE SAMPLING January 2021

Refilwe Moeletsu undertook a core logging and sampling exercise in Mokopane, towards her PhD studies. Along with her Wits supervisor, Dr Marina Yudovskaya, Refilwe completed the logging and sampling for bulk chemical, mineralogical, and metallurgical testing.



PLANT SAMPLING March 2021



The Mintek team from Mineralogy, Minerals Processing and Measurement and Control recently sampled a bank of flotation cells at a PGM concentrator. This formed part of research into PGM species behaviour in the plant environment.

TAILING SAMPLING February 2021

Tshiamo Legoale was part of a Mintek team that sampled a chromite tailings stockpile for the purposes of reprocessing to recover value. Samples were taken for sink-float analysis to assess recovery efficiencies.



the Nugget Effect

One tectonic plate bumped into another and said, "Sorry, my fault."

MINERALOGY FACILITIES & CONTACT DETAILS

Sample preparation | X-ray diffraction | Scanning electron microscopy | Electron probe microanalysis | Optical microscopy | Sampling
Automated mineralogy facility – QEMSCAN, MLA | Laser ablation ICP-MS | Fourier transform infra-red spectroscopy
Micro-XRF imaging | GIS facility | X-ray computed tomography

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